IIEC/CNE/VES Jt. Exhibit 1

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

NORTH SHORE GAS COMPANY	:	
	:	NO. 07-0241
Proposed general increase in rates for gas service	:	
PEOPLES GAS LIGHT AND COKE COMPANY	:	
	:	NO. 07-0242 (Consolidated)
Proposed general increase in rates for gas service	:	

Direct Testimony and Schedules of

Dr. Alan Rosenberg

On Behalf of

Illinois Industrial Energy Consumers
Constellation NewEnergy - Gas Division, LLC
and
Vanguard Energy Services, LLC

June 29, 2007
Project 8808 / 8809

Revised

BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

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Direct Testimony of Alan Rosenberg

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A My name is Dr. Alan Rosenberg. My business address is 1215 Fern Ridge Parkway, Suite 208; St. Louis, Missouri 63141.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation with Brubaker & Associates, Inc. (BAI), energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This is summarized in Appendix A to my testimony.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A I am appearing on behalf of the Illinois Industrial Energy Consumers (IIEC), Constellation NewEnergy - Gas Division, LLC (CNE-Gas) and Vanguard Energy Services, LLC (VES). IIEC companies, as well as CNE-Gas and VES, are customers of North Shore Gas Company (NSG) and Peoples Gas Light and Coke Company

(PGLC) (collectively the Companies or PGLC/NSG). In addition, CNE-Gas and VES provide service to end-use customers on the distribution systems of NSG and PGLC.

Q WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY?

A My testimony covers the following subject areas:

- A recommendation to unbundle storage service from standby service.
- A recommendation on the total (maximum) amount of unbundled storage that transportation customers should be allowed to select and pay for.
- A recommendation on the level of the appropriate unbundled storage charge for transportation customers.
- Responses to the Companies' proposed restrictions on the utilization of storage.

Q SHOULD YOUR SILENCE ON ANY OTHER ASPECTS OF THE COMPANIES' FILINGS BE CONSTRUED AS ASSENT TO OTHER PROPOSALS OR REPRESENTATIONS OF THE COMPANIES?

A No.

Q PLEASE SUMMARIZE YOUR FINDINGS AND CONCLUSIONS.

A My findings and conclusions are as follows:

1. The Commission should approve a base-rate storage service that is unbundled from pipeline (standby) service, with a cost-based unbundled storage bank (USB) charge.
2. The USB charge should be set at 0.60¢ per therm of storage capacity per month for PGLC and 0.23¢ per therm for NSG.
3. The total amount of unbundled storage that should be allotted to PGLC transportation customers is 20 days, or 20 times the customer's MDQ, and for NSG customers, 6 times the customer's MDQ.
4. The Company proposal on mandatory "cycling" of transportation customers' storage gas inventory should be rejected.

5. The Company proposal to limit injections and withdrawals from storage by transportation customers should be relaxed on non-critical days.

The Companies Proposed Changes to the Transportation Program

Q HAVE YOU REVIEWED THE COMPANIES' PROPOSED CHANGES TO THE TRANSPORTATION PROGRAM AND TARIFFS?

A Yes. Those changes are covered in the direct testimony of Company witness Thomas Zack.

Q WHAT ARE THE OVERALL OBJECTIVES OF MR. ZACK?

A Mr. Zack posits the following four objectives:

- Continuing to provide all customers the opportunity to select an alternative natural gas supplier.
- Enhancing the transportation services that are available to both customers and alternative suppliers.
- Ensuring that the decision by customers to choose an alternative natural gas supplier does not harm the sales customers.
- Ensuring that transportation customers receive all of the services for which they are paying and pay for all the services they receive.

Q DO YOU AGREE WITH THOSE OBJECTIVES?

A Yes I do. I believe those are all valid objectives. However, I believe that a proper and successful transportation program should embrace the following three additional objectives:

- Allowing transportation customers to select (and pay for) only those services that they may require.
- Allowing transportation customers (and/or their suppliers on behalf of the transportation customers) access to services that the Company is able to provide on an equal footing as sales customers.

- Charging cost-based rates for those services chosen by the transportation customers.

Based on my experience and involvement in Illinois over the past twenty-five years, since the advent of natural gas transportation programs, I believe those three additional objectives (along with the four objectives noted by Mr. Zack) fully conform to the policies that have been consistently upheld by this Commission.

Q DO YOU BELIEVE THAT THE CHANGES PROPOSED BY MR. ZACK FURTHER THESE EXPANDED OBJECTIVES?

A Not as well as they could have. While some changes are probably called for, I believe that some of the proposed changes are unnecessary to protect sales customers. Certainly, Mr. Zack has not provided any substantive evidence that sales customers have been financially harmed, or that service to sales customers has been impaired, by the actions of transportation customers over the last ten years. Moreover, he has failed to propose other changes, which I believe should be made, that would further the additional objectives that I have outlined. Consequently, the balance of my testimony is devoted to modifying some of Mr. Zack's proposals, as well as recommending other changes, that taken together, will better further all seven of those objectives and serve to enhance the successful transportation program in Illinois.

Recommendation to Unbundle Base (Manlove) Storage from Standby Service

Q DO THE COMPANIES OFFER UNBUNDLED STORAGE SERVICE?

A No. Under the Companies present and proposed tariffs, customers must elect standby service in order to get an Allowable Bank (AB).

Q SHOULD THE COMPANIES OFFER SUCH AN UNBUNDLED STORAGE SERVICE?

A I believe the answer is an unqualified "yes". First, the Companies have access to Manlove field, so they are certainly capable of offering an unbundled storage service. While Manlove field is technically owned by PGLC, and not by its sister company NSG, the fact of the matter is that PGLC and NSG have had a storage sharing agreement that goes back until 1967 and has been in effect without interruption (albeit with some modifications) since that time. Thus for all intent and practical purposes, both Companies "own" storage. This aquifer storage reservoir (Manlove field) is distinct and separable from the LNG plant and the pipeline services that the Companies use to provide standby service.

Second, storage service (or banking service as it is frequently termed) is different and distinct from standby service. Standby service connotes a resource used to substitute or augment a transportation customer's gas supplies when those gas supplies are unavailable or insufficient. Storage service, on the other hand, refers to an underground storage reservoir, where gas may be physically injected and retrieved (withdrawn) at a subsequent time. Storage service allows for various functions. First, it allows for peak day deliverability, that is, as a supplement or replacement for upstream interstate pipeline capacity that brings gas to the city-gate. Second, it serves as a physical hedge. Customers can buy more gas when it is less expensive, generally in the non-winter months to replace spot purchases during the more expensive winter season. Third, although auxiliary to the other two main roles, storage can also function as a temporary parking place to absorb imbalances between planned usage and actual usage. Whereas standby service does not require the customer to have previously purchased gas, storage does have that prerequisite.

A third reason why it is particularly important to divorce base (Manlove) storage in this case from standby service is the Companies proposal to increase the cost of standby service (because of their proposed increase in the demand diversity factor), by 74% on PGLC and 50% on NSG. Thus, customers who may not be able to afford standby service, could still have access to a cost effective storage service.

Q ARE THERE OTHER REASONS THE COMPANY SHOULD OFFER SUCH AN UNBUNDLED STORAGE SERVICE?

A Yes. Unbundled storage service should be offered to transportation customers because it will allow them to lower their energy costs, thereby making the Chicago area more attractive to large users of gas. In recent years, there has been a decline in large volume usage and this may help stem the decline. As noted in the 1967 storage service agreement between PGLC and NSG:

> Whereas, Peoples Gas and North Shore desire to establish a working arrangement pursuant to which Peoples Gas will store and deliver natural gas for North Shore from time to time, so that they may severally make the maximum efficient use of their respective gas supplies.

If you substitute "transportation customers on the Peoples and North Shore systems" for the entity "North Shore" in the cited paragraph, you will have a cogent reason to offer unbundled storage service. Availability of an unbundled storage service will allow large gas users to make more efficient use of their gas supplies and thereby reduce energy costs in Illinois.

Q DOES PGLC OFFER UNBUNDLED STORAGE SERVICE TO THIRD PARTIES?

A Yes. Moreover, it has relinquished purchased storage service to Merrill Lynch. Consequently, there is no excuse not to offer unbundled storage service to its native

load customers, many of whom have supported PGLC's rate base investment for many years.

Q IF THE COMMISSION APPROVES AN UNBUNDLED STORAGE SERVICE AS YOU RECOMMEND, COULD A CUSTOMER ACQUIRE ADDITIONAL STORAGE BY SELECTING STANDBY SERVICE?

A Yes, of course. The two storage banks are quite distinct. The unbundled storage service would be provided through the capabilities of Manlove field, while the bundled standby/storage service would be provided through the storage and no notice service provided by (and purchased from) ANR Pipeline Company and Natural Gas Pipeline Company of America. Thus the unbundled storage bank (USB) could have quite different operating parameters (and costs) from the Allowable Bank (AB) which, under my proposal, would only be associated with the selected standby service. In fact, this is another advantage of unbundling the two services. Instead of devising terms and conditions that fit a "hybrid" service, as Mr. Zack terms his proposals, the charges and operating parameters could be tailored to be more apropos for each of those services. The balance of my testimony is confined to the costs, terms and conditions governing the USB.

Q WHAT WOULD BE THE ALLOWABLE BANK IF MANLOVE FIELD STORAGE WERE UNBUNDLED?

A PGLC leases a total storage capacity of 31,525,000 Dth of capacity from its interstate pipeline storage service. When divided by the total coincident peak of 1,951,650 Dth, this yields 16 days of allowable bank, times the SSP, times the DF. NSG leases a total storage capacity of 8,628,000 Dth (apart from Manlove). When divided by its

total coincident peak of 359,153 Dth, this yields 24 days of allowable bank, times the Selected Standby Quantity (SSQ), times the diversity factor (DF).

Q WOULD YOUR PROPOSAL ON UNBUNDLING STORAGE SERVICE FROM STANDBY SERVICE ALSO AFFECT THE STANDBY SERVICE CHARGE?

A Yes, it would. The cost of standby would be a function of the purchased storage services from ANR Pipeline (ANR) and Natural Gas Pipeline Company of America (NGPL) and would reflect only those FERC-approved costs, and also LNG costs. However, it would not include any costs associated with the Manlove storage reservoir because that resource would not be used for standby service, but only for unbundled storage service (and bundled storage service for sales customers, of course).

Q HOW WOULD THE TWO STORAGE BANKS INTERACT WITH EACH OTHER FOR BILLING PURPOSES?

A I would propose that the USB (Manlove storage) be deemed to be filled first, and only when that is filled to capacity would any excess deliveries start to fill up the AB (standby bank). On the withdrawal side, I would propose that the AB be emptied first, and only when that is depleted, would the customer be deemed to have invaded its USB gas. Consequently, the AB would be a last in, first out (LIFO) storage.

The Amount of Storage that Should be Made Available on an Unbundled Basis

Q HOW MUCH STORAGE SERVICE SHOULD BE AVAILABLE FOR A CUSTOMER'S USB?

A The amount of storage made available to a transportation customer should be the total amount of Manlove storage available to each Company (PGLC and NSG,

respectively) times a ratio equal to the customers MDQ divided by the respective system coincident peak. Another way of stating this is that if X days of Manlove storage is available to the system as a whole, then X days should be made available to the transportation customers. (It should be noted that this allocates less storage to the transportation customers, as a fraction of their total throughput, than to the sales customers.)

Q IS THIS THE SAME FORMULATION THAT THE ICC USED TO ALLOCATE A PORTION OF NICOR GAS'S UNDERGROUND STORAGE FOR UNBUNDLED ACCESS ON THAT SYSTEM?

A Yes.

Q WHAT IS THE TOTAL MANLOVE STORAGE CAPACITY THAT IS ALLOTTED TO EACH OF THE COMPANIES?

A I could not find that allotment in the storage agreements between the companies in the contracts provided in response to Staff Data Request ENG 3.37. However, in a storage rate case filed by Peoples before the FERC (Docket PR07-000), Schedule A of that filing indicates the following allocation between the two sister companies:

Peoples Gas Light and Coke Company	34,730,957 Dth
North Shore Gas Company	1,779,053 Dth
Total Capacity of Manlove Field	36,510,000 Dth

That total figure also agrees with the total capacity for Manlove field of 36,500,000 Dth given in response to Data Request CNE 1.32.

Q HOW MANY DAYS OF STORAGE WOULD THAT EQUATE TO ON THE PGLC SYSTEM?

A That would equate to 17.8 times the customers MDQ. The derivation of this figure is shown on **Schedule 1-PGLC** of Exhibit AR. For suppliers who manage gas for a pool of customers, the sum of the MDQ for all customers in the pool times 17.8 would be the maximum allowable storage capacity. Of course, I would not expect every transportation customer to elect that maximum amount. I would allow other transportation customers to purchase any unsubscribed amount as allowed by Nicor Gas.

Q HOW MANY DAYS OF STORAGE WOULD THAT EQUATE TO ON THE NSG SYSTEM?

A That would equate to five times the customers MDQ. The derivation of this figure is shown on **Schedule 1-NSG** of Exhibit AR. For suppliers who manage gas for a pool of customers, the sum of the MDQ for all customers in the pool times five would be the maximum allowable storage capacity.

Q SHOULD THOSE MAXIMUM AMOUNTS BE ADJUSTED UPWARDS FOR ANY REASON?

A Yes. Because not all customers would utilize the maximum amount of capacity, that storage allowance could be adjusted upwards to account for this diversity. Thus for example, if there were 100 transportation customers each with an MDQ of 5,000 Dth theoretically they could reserve 5,000 X 100 X 17.8 or 8,900,000 Dth of storage. However, it is extremely unlikely that at any time there would be 8,900,000 therms in their combined bank. That is because there would be an excess storage charge for exceeding their USB. Empirically, as I shall demonstrate later, the aggregate peak of

the transportation customers' gas in storage has been less than the maximum allowable bank. I term this quotient, the maximum transportation gas at any one time, divided by the maximum allowable bank, the Storage Diversity Factor, or SDF. Consequently, if we divide the previous allowance of 17.8 days (for PGLC) by this SDF, the end-result would not be a disproportionate allowance to transportation.

Q IS THE SDF THE SAME DIVERSITY FACTOR WHICH MR. ZACK SPEAKS OF IN HIS TESTIMONY?

A No. The diversity factor of which Mr. Zack speaks is the ratio of the transportation customers' coincident peak divided by the sum of their individual (non-coincident) peaks. Thus Mr. Zack has calculated a *demand* diversity factor. What is relevant to this issue, however, is a *storage* diversity factor. The SDF refers to the coincidence (or lack of coincidence) in how transportation customers maximize their storage banks.

Q WHAT WOULD BE THE APPROPRIATE SDF?

A Logically it would be the total simultaneous (coincident) peak storage amount held for transportation customers divided by the theoretical maximum allowable storage for these same customers.

Q HAVE YOU EXAMINED THE RELATIONSHIP BETWEEN THE AMOUNT OF STORAGE CAPACITY THAT TRANSPORTATION CUSTOMERS HAVE RESERVED AND THE AMOUNT OF GAS THAT THEY ACTUALLY CYCLE?

A Yes. In response to Data Request IIEC 1.22, the Companies provided the Excel spreadsheets that Mr. Zack used to prepare his exhibits in this proceeding. Those spreadsheets contained the SST (Selected Standby Transportation Service) and LST

(Large Volume Selected Standby Transportation Service) customers' gas bank accounts (GBA) as a percentage of the Allowable Bank for four years. The maximum percentages in each of those years were as follows:

2002 – 2003 75%

2003 – 2004 77%

2004 – 2005 88%

2005 – 2006 91%

This would suggest that a SDF of 0.9 is probably on the high side. Moreover, even the above figures may be overstated because the Companies appear to have included Excess Bank (gas in storage above and beyond the allotted AB) in with the GBA. Customers pay extra for any therms in their Excess Bank.

Q BASED ON AN SDF OF 0.9, WHAT WOULD BE THE APPROPRIATE MAXIMUM STORAGE BANKS FOR TRANSPORTATION CUSTOMERS?

A Thus the maximum amount of unbundled storage on the PGLC system that should be allotted to each transportation customer is 17.8 divided by 0.9, or 19.8 times the customer's MDQ. I would suggest rounding this to 20 days (times MDQ) of storage.

Q WHAT IS THE MAXIMUM STORAGE ALLOTMENT YOU WOULD RECOMMEND FOR TRANSPORTATION CUSTOMERS ON THE NSG SYSTEM?

A For the NSG system I would recommend five days (times MDQ) before accounting for an SDF factor of 0.9 or 5.5 days after dividing by the SDF. I would suggest rounding this to 6 days of storage.

Recommendation on the Level of the Appropriate Unbundled Storage Charge for Transportation Customers

Q HOW WOULD YOU RECOMMEND CALCULATING THE UNBUNDLED STORAGE CHARGE?

A As with any cost-based charge, the initial calculation should be the total cost of the service, divided by the capacity of the storage field. This way if some group hypothetically reserves the entire reservoir capacity, they would end up paying for the entire cost of the storage.

Q SHOULD THAT COST INCLUDE THE CARRYING COST OF THE TOP GAS?

A Clearly the answer is no. That is because transportation customers supply their own top gas. These transportation customers have no right to the top gas that the Companies store, that is, their bank can never go negative, without paying an additional charge. Another way of seeing the logic of this is that just as sales customers are not being asked to support the working inventory of transportation customers, by the same token, transportation customers should not be asked to support the carrying cost of working inventory that is purchased for the benefit of sales customers. There should be no cross-subsidization in either direction.

Q WHAT IS THE TOTAL EMBEDDED COST OF STORAGE, EXCLUDING TOP GAS, FOR PGLC?

A According to the unbundled costs developed by Mr. Amen, the cost is $27,688,581 as shown on his PGLC Ex. RJA 1.2, Page 2 of 3.

Q WHAT IS THE TOTAL EMBEDDED COST OF STORAGE EXCLUDING TOP GAS FOR NSG?

A The cost is $543,469 as shown on NSG Ex. RJA 1.2.

Q DOES PGLC USE THE TOTAL TOP STORAGE CAPACITY OF MANLOVE FIELD TO WHICH IT IS ENTITLED?

A No it does not.

Q WHY THEN SHOULD YOU DIVIDE THE TOTAL EMBEDDED COST OF STORAGE BY THE MAXIMUM MANLOVE CAPACITY IN THE DERIVATION OF THE USB CHARGE?

A The total top storage capacity is the correct denominator for two reasons. First, because the numerator reflects the cost for the *entire* capacity, the denominator must reflect this same *entire* capacity or there would be a mismatch. Second, the revenues that PGLC receives for selling Hub services or Parking services for that spare capacity, comes back to customers through Rider 2, the PGA. Those monies therefore go to the sales customers, and not to the transportation customers who do not normally purchase their gas from PGLC. Consequently, the *entire* capacity is the only reasonable denominator to use to arrive at a cost-based charge.

Q IN ORDER TO ARRIVE AT A COST-BASED USB CHARGE, SHOULD THOSE QUOTIENTS BE ADJUSTED TO ACCOUNT FOR THE STORAGE USAGE CHARACTERISTICS OF THE TRANSPORTATION CUSTOMERS?

A Yes. As I previously explained, the Companies need not provide the full amount of storage allotted to the transportation customers. Thus those figures should be multiplied by the SDF. Historically, transportation customers do not cycle the full

amount of gas that they bank with the Companies. That of course is an advantage to the Companies because it enables the Companies to cycle more of the gas on behalf of their sales customers. (Think of a transportation customer who banked gas with the Companies but never bothered to cycle any of it. That customer would simply be making a permanent loan to the Companies of its gas, and PGLC/NSG would have to own that much less "top gas," i.e., the rate base for sales customers would be that much less.)

Q WHAT SHOULD THE USB CHARGE BE AFTER MAKING THE ADJUSTMENT FOR TRANSPORTATION STORAGE USE?

A The USB charges should be 0.60¢ per therm for PGLC and 0.23¢ per therm for NSG. The complete derivation is shown on Schedule 2 – PGLC and Schedule 2 – NSG, respectively.

Limits on Withdrawals and Injections for Unbundled Storage

Q WHAT ARE THE CURRENT LIMITATIONS ON WITHDRAWALS FROM A CUSTOMER'S AB?

A Under the current tariff, a customer may withdraw any amount between 0% and 100% of its MDQ, subject to the amount of gas in its inventory and the Companies not calling a Critical Gas Shortage Day.

Q WHAT IS THE COMPANIES' PROPOSED LIMITATIONS ON WITHDRAWALS?

A The Companies are proposing a Maximum Daily Withdrawal Quantity (MDWQ) which is calculated as

$$(BRDW/DPD + (GCDW/DPD \times DF)) \times SSP$$

where

BRDW = maximum daily withdrawal quantity attributable to the Companies' Base Rate Storage in any given month

DPD = Design Peak Day Demand

GCDW = maximum daily withdrawal quantity attributable to the Companies' Gas Charge Storage services in any month

DF = demand diversity factor

SSP = Seasonal Standby Percentage

Q DO YOU AGREE WITH THAT PROPOSAL?

A No. In the first place the formula is far too complicated. In the second place, customers would not even know what some of those factors were until the Companies calculate them. In the third place, the Companies' proposals are too stringent, and have not been shown to be necessary. Moreover, they do not take into account the diversity of transportation customers' use of storage. For example, if one transportation customer is long on a day (brings in more gas than it uses), and another transportation customer is short, the "injection" of the first customer will, to some extent, cancel out or at least moderate, the "withdrawal" of the second customer.

Q WHAT IS MR. ZACK'S STATED RATIONALE FOR IMPOSING THESE CONVOLUTED LIMITS?

A Mr. Zack argues that because there are contractual or physical limitations on daily injection and withdrawal rights, these need to be equitably shared.

Q DO YOU AGREE WITH MR. ZACK'S LOGIC?

A No. While the argument may, at first blush, have some intuitive appeal, it does not hold up to scrutiny. For example PGLC and NSG Exhibits TZ 1.12 page 1 indicates

that the Companies have 0% (of DPD) withdrawal capacity from May through September (or at least they plan no withdrawals). Does that imply that it is "fair" or "reasonable" to restrict a transportation customer's withdrawal rights to 0% (or next to 0%) of its MDQ during that period? I submit that the answer is clearly "no". May through September is within the period of the year when, as Mr. Zack himself notes, gas is typically less expensive. Thus if a transportation customer is withdrawing gas during that period, it is bringing in less gas than it is using. But that implies that there is more "room" for PGLC to inject this less expensive gas for the benefit of the sales customers. In other words, a transportation notional "withdrawal" during these non-winter months is helpful to the sales customers. Mr. Zack's proposal would actually preclude such beneficial withdrawals. Mr. Zack's proposal then is like cutting off one's nose to spite one's face, in the name of "fairness".

Q WHAT IS YOUR RECOMMENDATION ON WITHDRAWAL LIMITS?

A I will confine my remarks to the withdrawal rights on the USB. On a daily basis, there is no need for withdrawal limits unless the Company declares a Critical Day (specifically a Supply Shortage Day). In other words, on non-critical days, the customer would be able to draw upon its storage, up to its MDQ, just as it can today. It is important to realize that the USB under my proposal, would not be allowed to go negative, so that in itself is a limitation. On Critical Days (Supply Shortage Days), it would be necessary to ration withdrawal capacity. For example, PGLC's withdrawal capacity from Manlove is 1,017,363 Dth as noted in the response to Data Request NSG-IIEC 1.41. This represents 2.9% of the capacity of 34,730,947. Consequently even on Critical Days, I believe it reasonable for a PGLC transportation customer to withdraw up to 3.0% of its USB. Similarly, NSG's daily withdrawal limit is 62,637 Dth. Dividing that figure by the NSG Manlove capacity of 1,779,053 Dth yields a quotient

of 3.5%. Consequently even on Critical (Supply Shortage) Days, I believe it reasonable for a NSG transportation customer to withdraw up to 4.0% of its USB.

Q SHOULD THERE BE ANY MONTHLY LIMITATIONS ON USB STORAGE WITHDRAWALS?

A Only in the months of December, January and February. These are the months when withdrawal activity by the Companies is at a peak, and so monthly limitations would be reasonable. I would propose monthly limitations of, respectively, 35%, 40% and 25%, of the customers USB. In other months of the year, I do not believe that withdrawal limitations are necessary. For example, in the months when the Companies are injecting gas, withdrawals by transportation customers are synergistic with the Companies activities and are actually beneficial to the sales customers.

Q ARE THERE INJECTION LIMITATIONS UNDER THE CURRENT TRANSPORTATION TARIFFS?

A No, only on Critical Supply Surplus Days.

Q WHAT ARE THE COMPANIES' NEW PROPOSED LIMITATIONS ON INJECTIONS?

A The Companies are proposing a Maximum Daily Injection Quantity (MDIQ) which is calculated (for "unbundled" customers) as

$$(BRDI/DPD + (GCDI/DPD \times DF)) \times SSP$$

where

BRDI = maximum daily injection quantity attributable to the Companies' Base Rate Storage in any given month

GCDI = maximum daily injection quantity attributable to the Companies' Gas Charge Storage services in any month

Q DO YOU AGREE WITH THAT PROPOSAL?

A No. The same problems I noted with respect to Mr. Zack's withdrawal proposal also pertain to his injection scheme. Of prime importance, however, is the Companies have not shown these new limitations to be necessary. Just imposing daily injection limitations for the sake of following a formula does not help anyone. For example, as can be seen on PGLC Ex. TZ 12, transportation customers are actually injecting gas on some winter days. This actually helps the Company, instead of hurting it. Mr. Zack's proposal would preclude this beneficial action. I would note that in the Manlove storage agreement between PGLC and NSG, unlike withdrawals which are specified, there does not seem to be any limit on daily injections. Instead the language of the Agreement reads as follows:

> Allocation of daily top storage gas injections between Peoples Gas and North Shore shall be made on the basis of their respective peak day demand on the Storage Reservoir whenever the aggregate desired injection quantity of both parties exceeds the daily injection capacity of the Storage Reservoir. (Response to Data Request ENG 3.37, Exhibit 1, pages 7-8)

Q WHAT IS YOUR RECOMMENDATION ON INJECTION LIMITS?

A Except for Critical Days (specifically Supply Surplus Days), when injections may need to be rationed in a manner similar to the PGLC/NSG Storage Agreement, there should not be any daily restriction. However, I can see the possibility that if transportation customers bring in more gas in a month when the Companies are also trying to fill up their fields, there could be a problem. Those would be the months May through October. Consequently, for those six months only, it would be reasonable to

limit a transportation customer's net injections in any month to no more than 20% of the customer's USB.

Response to the Company Proposal on Mandatory "Cycling" of Transportation Customers' Storage Gas Inventory

Q ARE THE COMPANIES PROPOSING ANY NEW CONDITIONS ON THE CUSTOMER'S USE OF THE UNBUNDLED STORAGE SERVICE?

A Yes. Under the PGLC proposal, a customer must fill its banked gas to at least 70% of its elected AB capacity by November 30 of each year, and that the customer must also empty its banked gas to no more than 35% of its elected capacity by March 31 of each year. Under the NSG proposal, the customer's AB must be at least 85% full by November 30 and no more than 24% full by March 31.

Q DO PGLC/NSG PRESENT ANY SUPPORT FOR THESE REQUIREMENTS IN THEIR FILING?

A This proposal is supported by Mr. Zack. He offers only two ostensible reasons for this requirement:

1. The Companies normally aim to maximize their working gas inventory on November 30 and minimize their inventory by March 31.
2. The Companies are seeking to better match the supplier and customer's rights with assets supporting those rights.

Q DID MR. ZACK PRESENT ANY EVIDENCE THAT PGLC COULD NOT OPERATE ITS SYSTEM EFFECTIVELY AS A RESULT OF NOT HAVING THIS RESTRICTION?

A No. In fact, that would be difficult to do in light of the fact that PGLC seems to have been operating its Manlove storage field without difficulty for the past 10 years, with no such restriction.

Q DO YOU AGREE WITH MR. ZACK'S REASONING FOR THIS RESTRICTION ON THE FREEDOM TO CYCLE GAS?

A No. Furthermore, as I will subsequently demonstrate, the failure of transportation customers to cycle their banked gas on the same schedule as the sales customer is more likely to benefit sales customers than to harm them or shift costs to them. Finally, I would note that nowhere does Mr. Zack assert that his proposal is required in order for PGLC/NSG to operate their storage fields in the optimal manner.

Q DO YOU AGREE WITH THE COMPANIES' PROPOSED CYCLING REQUIREMENTS?

A No. In the first place, the requirements would place unnecessary restrictions on how a transportation customer seeks to manage its own gas purchasing strategy.

In the second place, the Companies themselves have not followed their own strictures. For example, at the end of March 2006, PGLC had a balance of 18,050,901 Dth of leased storage, while its total leased storage capacity was 31,525,000. Thus its leased storage was 57% of maximum capacity.

Q ARE YOU AWARE THAT THE COMPANIES' AQUIFER STORAGE FIELD OPERATIONALLY REQUIRES THAT GAS BE INJECTED AND WITHDRAWN OVER A YEAR IN ORDER TO MAINTAIN PEAK PERFORMANCE?

A Yes. Note, however, that this does not imply that one necessarily has to maximize the working gas inventory on November 1 and minimize it by April 1. I do not believe the aquifer fields can read the calendar. It only means that periodically the fields have to be filled up and periodically the fields have to be emptied.

Q NEVERTHELESS WOULD YOU AGREE THAT THE COMPANIES' AIM TO MAXIMIZE THEIR WORKING GAS INVENTORY ON NOVEMBER 30 AND MINIMIZE THIS INVENTORY BY THE FOLLOWING MARCH 31?

A Yes. However, they do so for the convenience of their sales customers whose usage is much more weather sensitive than that of the transportation customers as a whole. In any case, the usage pattern of one group should not dictate the storage profiles of all other groups. All customers who are utilizing storage are paying their fair share of the storage costs and should be allowed to optimize that usage for their own circumstances.

Q IF THE COMPANIES' MAXIMUM AND MINIMUM BANKING REQUIREMENTS FOR TRANSPORTATION CUSTOMERS ARE REJECTED, AS YOU RECOMMEND, WOULD THAT IN ANY WAY PREVENT OR JEOPARDIZE THE COMPANIES' ABILITY TO OPERATE THEIR STORAGE FIELD AS THEY SEE FIT?

A Obviously not. There have been no such restrictions on transportation customer banks for the past ten years, and PGLC/NSG has managed to operate Manlove field in a satisfactory manner.

Q HOW DO THE COMPANIES MANAGE TO DO THAT IF THE TRANSPORTATION CUSTOMERS ARE NOT FOLLOWING THAT SAME SCHEDULE OF INJECTIONS AND WITHDRAWALS?

A They do that by adjusting their own purchase patterns in response to transportation usage and transportation nominations (and to the usage patterns of sales customers, of course) in order to achieve the level of injections and withdrawals found appropriate.

Q DOES THIS MEAN THAT NOT IMPOSING RESTRICTIONS ON THE BANKING LEVELS OF THE TRANSPORTATION CUSTOMERS USING USB COULD SHIFT MORE PURCHASE GAS COSTS TO THE SALES CUSTOMERS?

A No, it does not mean that at all. In fact, just the opposite is more likely to be true. I have prepared **Schedule 3**, which illustrates how the Companies would operate their storage as they have historically. In this scenario, I have also assumed that the transportation customers manage their banks to mimic those of the whole field. Note that in each and every month the ratio of the banked gas to the entire volume of working gas is the same. This is how PGLC/NSG states it wants transportation customers to manage their storage banks. I have also included hypothetical costs of purchased gas each month, assuming higher prices of gas in the winter, as is normally the case. The last column shows that because of storage, i.e. injecting gas when it is relatively inexpensive and withdrawing it in the months when it is more expensive, PGLC/NSG would have saved money through their storage activity.

In **Schedule 4** I have prepared a similar type of storage analysis as in **Schedule 3**, with just one difference. In **Schedule 4**, instead of the transportation customers cycling their gas on exactly the same pattern as the field, I have held the transportation bank constant for the entire year. This of course is the exact opposite

of the storage behavior that PGLC/NSG seeks to impose. In every other respect, **Schedule 4** is the same as **Schedule 3**, including the physical volumes of gas going in and out of the field. PGLC/NSG, however, must change their purchasing pattern in this second scenario in order to keep the working gas volumes at the same levels as in **Schedule 3**. However, note that now the sales customers have saved even more money. Thus, a comparison of **Schedules 3 and 4** vividly demonstrates that it is not only conceivable, but even plausible, that PGLC/NSG's mandatory cycling could actually cost the PGA customers money. (It would not cost PGLC/NSG any money because all purchased gas costs are normally recovered dollar for dollar through the PGA).

Q WOULD YOU AGREE THAT YOUR SCHEDULES 3 AND 4 ONLY PROVE YOUR POINT AS LONG AS GAS IN THE WINTER MONTHS IS MORE EXPENSIVE THAN GAS IN THE NON-WINTER MONTHS?

A That is correct. However, Mr. Zack notes, in his testimony (page 9) that non-winter gas is "normally lower cost". Consequently, "normally", Mr. Zack's cycling requirements are more apt to *raise* the cost of gas to sales customers than vice versa.

Q WHAT IS YOUR RECOMMENDATION WITH REGARD TO MAXIMUM AND MINIMUM BANKED LEVELS OF GAS?

A I recommend that there be no requirements on minimum or maximum banked gas levels for transportation customers for the USB. This would be consistent with the status quo under the PGLC/NSG tariffs that exist today. Clearly the current terms and conditions, as is evidenced by history, and admitted by PGLC/NSG witnesses, do not in any way prevent or deter PGLC/NSG from physically cycling Manlove as they

see fit. Moreover, as I have already demonstrated, any possible "under-injecting" or "under-withdrawing" by transportation customers, is more likely to *lower* the costs of the PGA customers than to raise it (as long as gas remains more expensive in the winter than in the remaining months). Of course, for the AB, which refers to leased storage, I make no recommendations on cycling requirements.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes.

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Qualifications of Alan Rosenberg

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Alan Rosenberg. My business address is 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and am a principal with the firm of Brubaker & Associates, Inc. (BAI), energy, economic and regulatory consultants.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I was awarded a Bachelor of Science Degree from the City College of New York in 1964 and a Doctorate of Philosophy in Mathematics from Brown University in 1969. Subsequently, I held an Assistant Professorship of Mathematics at Wesleyan University in Connecticut. In the summer of 1975, I was a Visiting Fellow at Yale University. From July, 1975 through January, 1981, I was Assistant Controller and Project Manager for a division of National Steel Products Company. My responsibilities there included supervision of management accounting, cost accounting and data processing functions. I was also responsible for internal control, general ledger systems, working capital levels, budget preparation, cash flow forecasts and capital expenditure analysis.

I have published in major academic journals and am a member of the International Association for Energy Economics. I was an invited speaker at the NARUC Introductory Regulatory Training Program and a panelist at a conference on LDC and Pipeline Ratemaking sponsored by the Institute of Gas Technology. I have presented a paper on stranded costs at the 21st Annual International Conference of

the International Association for Energy Economics. I have had two papers on transmission congestion pricing published in The Electricity Journal. I am also a Certified Energy Procurement Professional by the Association of Energy Engineers.

In January, 1982, I joined the firm of Drazen-Brubaker & Associates, Inc., the predecessor of Brubaker & Associates. Since that time, I have presented expert testimony on the subjects of industry restructuring, open access transmission, marginal and embedded class cost of service studies, prudence and used and useful issues, electric and gas rate design, revenue requirements, natural gas transportation issues, demand-side management, and forecasting.

I have previously testified before the Federal Energy Regulatory Commission as well as the public service commissions of Arizona, Connecticut, Delaware, Florida, Idaho, Illinois, Iowa, Massachusetts, Michigan, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, Wyoming and the Provinces of Alberta, British Columbia, New Brunswick, Nova Scotia, and Saskatchewan in Canada. I have also testified before the Michigan Senate Technology and Energy Committee.

In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona; Corpus Christi, Texas; and Plano, Texas.

North Shore Gas Company

Maximum Amount of Unbundled Storage Allotted to Transportation Customers

Line	Description	Amount	Units
1	**Manlove Field Capacity**	1,779,053	Dth
2	**Coincident Peak**	359,153	Dth
3	**Days of Storage**	5.0	Days
4	**Adjustment for Storage Diversity Factor**	90%	
5	**Maximum Amount of Unbundled Storage**	**5.5**	**Days**

Peoples Gas Light and Coke Company

Maximum Amount of Unbundled Storage Allotted to Transportation Customers

Line	Description	Peoples Gas	Units
1	**Manlove Field Capacity**	34,730,957	Dth
2	**Coincident Peak**	1,951,650	Dth
3	**Days of Storage**	17.8	Days
4	**Adjustment for Storage Diversity Factor**	90%	
5	**Maximum Amount of Unbundled Storage**	**19.8**	**Days**

North Shore Gas Company

Calculation of Storage Charge

Line	Description	Total	North Shore
1	**Manlove Field Capacity (Dth)**	36,510,010	1,779,053
	Storage Related Revenue Requirement at Equal ROR		
2	**Demand Related**		$ 543,469
3	**Storage Charge - per year**		$ 0.3055
4	**Per Month per Therm**		$ 0.0025
5	**Adjustment for Storage Diversity Factor**		90%
6	**Adjusted Storage Charge per month per therm**		**$ 0.0023**

Peoples Gas Light and Coke Company

Calculation of Storage Charge

Line	Description	Total	Peoples
1	Manlove Field Capacity (Dth)	36,510,010	34,730,957
	Storage Related Revenue Requirement at Equal ROR		
2	Demand Related		$ 27,688,581
3	Storage Charge - per year		$ 0.7972
4	Per Month per Therm		$ 0.0066
5	Adjustment for Storage Diversity Factor		90%
6	Adjusted Storage Charge per month per therm		**$ 0.0060**

Hypothetical Example of Impact of Banking Service on Cost of Sales Gas
Transportation Customers Follow Same Pattern as Physical Injections/Withdrawals

Line	Month	Cost of Gas (A)	End of Month (B)	Physical Withdrawal/ Injection (C)	Implied Sales Purchases (D)	Transportation Bank (E)	Transport Imbalance (F)	Sales Cost (G)
Assumed beginning balances			40,000			10,000		
1	Apr	$ 6.00	42,392	2,392	1,794	10,598	598	$ 10,764
2	May	$ 6.00	47,964	5,572	4,179	11,991	1,393	$ 25,073
3	Jun	$ 6.00	53,532	5,568	4,176	13,383	1,392	$ 25,056
4	Jul	$ 6.00	59,168	5,637	4,228	14,792	1,409	$ 25,365
5	Aug	$ 6.00	63,285	4,117	3,088	15,821	1,029	$ 18,526
6	Sep	$ 6.00	66,112	2,826	2,120	16,528	707	$ 12,718
7	Oct	$ 6.00	71,601	5,489	4,117	17,900	1,372	$ 24,701
8	Nov	$ 6.00	72,518	917	688	18,129	229	$ 4,127
9	Dec	$ 7.00	63,660	(8,858)	(6,644)	15,915	(2,215)	$ (46,505)
10	Jan	$ 7.00	56,934	(6,726)	(5,045)	14,233	(1,682)	$ (35,312)
11	Feb	$ 7.00	45,486	(11,448)	(8,586)	11,371	(2,862)	$ (60,102)
12	Mar	$ 7.00	40,000	(5,486)	(4,115)	10,000	(1,372)	$ (28,802)
13	Total							$ (24,390)

(A) Hypothetical Cost of Gas
(B) Equal to previous month balance plus (minus) that month injection (withdrawal)
(C) Typical operation of working gas
(D) Incremental flow gas purchases made by PGLC (Column (C) less Column (F))
(E) Assumed to be 25% of actual top gas volume every month or perfect cycling
(F) Current month transportation bank less previous month bank
(G) Cost of Sales gas (PGA) avoided by storage equal to Column (D) times Column (A)

Hypothetical Example of Impact of Banking Service on Cost of Sales Gas
Transportation Customers Fail to Cycle any Gas Whatsoever

Line	Month	Cost of Gas (A)	End of Month (B)	Physical Withdrawal/ Injection (C)	Implied Sales Purchases (D)	Transportation Bank (E)	Transport Imbalance (F)	Sales Cost (G)
Assumed beginning balances			40,000			10,000		
1	Apr	$ 6.00	42,392	2,392	2,392	10,000	-	$ 14,352
2	May	$ 6.00	47,964	5,572	5,572	10,000	-	$ 33,430
3	Jun	$ 6.00	53,532	5,568	5,568	10,000	-	$ 33,408
4	Jul	$ 6.00	59,168	5,637	5,637	10,000	-	$ 33,820
5	Aug	$ 6.00	63,285	4,117	4,117	10,000	-	$ 24,701
6	Sep	$ 6.00	66,112	2,826	2,826	10,000	-	$ 16,957
7	Oct	$ 6.00	71,601	5,489	5,489	10,000	-	$ 32,935
8	Nov	$ 6.00	72,518	917	917	10,000	-	$ 5,502
9	Dec	$ 7.00	63,660	(8,858)	(8,858)	10,000	-	$ (62,006)
10	Jan	$ 7.00	56,934	(6,726)	(6,726)	10,000	-	$ (47,082)
11	Feb	$ 7.00	45,486	(11,448)	(11,448)	10,000	-	$ (80,136)
12	Mar	$ 7.00	40,000	(5,486)	(5,486)	10,000	-	$ (38,402)
13	Total							$ (32,520)

(A) Hypothetical Cost of Gas
(B) Equal to previous month balance plus (minus) that month injection (withdrawal)
(C) Typical operation of working gas
(D) Incremental flow gas purchases made by PGLC (Column (C) less Column (F))
(E) Assumed to be constant
(F) Current month transportation bank less previous month bank
(G) Cost of Sales gas (PGA) avoided by storage equal to Column (D) times Column (A)